16. Since LADWP is responsible for the quality of the water that it serves its customers, LADWP would prefer to operate and maintain the proposed facilities instead of utilizing an independent water treatment operator.

EPA RESPONSE: Comment noted; the operator of the facilities will be determined during future negotiations. The ROD for Glendale South now identifies the City of Glendale as the primary acceptor of treated groundwater from the site.

17. Other issues that need discussion between LADWP and EPA include a determination of who will be responsible for the proposed facilities beyond the 15-year period of design, construction and operation, ultimate ownership of the facilities and land right-of-ways, and criteria regarding facilities' design and specified outage periods for system maintenance.

EPA RESPONSE: Comment noted; some of these issues will be addressed in negotiations for design, construction, and operation of the facilities.

18. LADWP believes that an additional annual cost ($223,522/year) should be added to the proposed remedial action and to any alternative that would involve continuous extractions from the San Fernando Basin (SFB) that is ultimately served as potable water to Los Angeles.

This additional cost is a result of the LADWP's reduced ability to purchase water from the Metropolitan Water District (MWD) under its Seasonal Storage Service (SSS) rate, which is the most economical rate that is offered.

EPA RESPONSE: EPA has decided to combine the treatment plants for Glendale North and Glendale South Operable Units at one location in the Glendale North area and to provide the combined treated water to the City of Glendale. Therefore, this comment should not apply to the preferred remedy.

However, as a contingency, if EPA does provide any or all of the treated water to Los Angeles, the cost burden for purchasing MWD water will be determined at that time. It should be noted that EPA has not ruled out other sources of water (besides MWD) for blending water for this Operable Unit.

In addition, in accordance with EPA guidance on conducting RI/FSs, the cost estimates have an accuracy of plus 50 percent to minus 30 percent. Therefore, even if these costs are included, the overall costs of the FS alternatives that involve acceptance of the treated water by a local water purveyor are still within the range determined appropriate by EPA for decision making. EPA is not required to cost out every potential element of a remedy but to come up with an estimate based on the major components in order to compare the costs of alternatives against one another.

19. The Proposed Plan makes no reference to TCA contamination in the groundwater. Rather the plan simply refers to concentrations of TCE and PCE as being the predominant contaminants. Although the Plan refers to other "VOC contaminants" detected above State and Federal maximum contaminant levels, none of those contaminants (1,1-DCE, 1,2-DCA and 1,1,2,2-tetrachloroethane) include TCA.

EPA RESPONSE: Comment noted; however, as discussed in the Feasibility Study, TCA is one of the VOCs found in the groundwater in the Glendale South OU above MCLs.

20. Commenter would like to discourage the amount of variances being given to industry since this might add to the amount of contamination.

EPA RESPONSE: The State of California Regional Water Quality Control Board, under a cooperative agreement with the U.S. EPA is conducting inspections at facilities in the San Fernando Valley to assess chemical usage and handling practices. Where appropriate, RWQCB requires facilities to improve their chemical storage facilities and/or their operations to ensure that chemicals do not continue to discharge to the environment.

21. What is the reason for the choice of location of extraction wells? Is it based on 1) accessibility to the site, or 2) because the levels of contamination are at their highest concentration in those locations, or 3) both or other reasons?

EPA RESPONSE: The locations of extraction wells considered in the Feasibility Study are based on EPA's best knowledge to date of the most effective areas for extraction (i.e. inhibit migration and pull the most contaminants for the least amount of extracted groundwater). The final number and location for these extraction wells will be determined during the Remedial Design phase for this project.

22. The commenter asserts that EPA has no statutory authority to require the cleanup of nitrates in the water to be extracted at the Glendale South OU. Nitrates are not hazardous substances under CERCLA. Nitrate is neither a listed hazardous substance under CERCLA, nor has it been identified as such in any of the environmental statutes which are incorporated by reference into CERCLA's definition of the term "hazardous substance." EPA states in the Proposed Plan that "EPA believes that the nitrate contamination is the result of past agricultural practices and/or septic systems in the San Fernando Valley." Releases which occur in connection with the normal application of fertilizer, however, are excluded from the scope of EPA's response authority under CERCLA.

EPA RESPONSE: EPA agrees that nitrate is not a CERCLA hazardous substance. However, once the contaminated water is extracted and

treated the water must be discharged which requires compliance with all Applicable or Relevant and Appropriate Requirements for on-site activities and all legal requirements for off-site activities. Given that the selected remedy involves providing a local water purveyor with the treated water, the water must meet all drinking water standards prior to being served to the public. Since nitrate concentrations will likely exceed drinking water standards in the extracted water, EPA evaluated alternatives to address nitrates. EPA's preferred remedy for addressing nitrates is to blend the water with water of such quality that the treated, blended water will meet all drinking water standards (including the nitrate MCL).

23. There could be an advantage in eliminating the treatment and blending facilities called for in the preferred plan for the South Operable Unit and instead conveying the extracted groundwater to an enlarged treatment plant to be built as part of the Glendale North Operable Unit. The City of Glendale would be able to accept treated groundwater from both the North and South Operable Units and vend this to its residents and still remain within its rights under the Los Angeles River Area Judgment and the associated Sylmar Basin Stipulations.

EPA RESPONSE: Comment noted. The Record of Decision documents for both the Glendale North and Glendale South Operable Units reflect that the EPA has chosen (after additional analyses) to combine the treatment plants for these two OUs at one location in the Glendale North Study Area and to provide the City of Glendale with the treated water from the combined plant.

24. The data available from the few wells used in the RI/FS are inadequate to demonstrate the existence of a regional plume or its nature and extent.

EPA RESPONSE: EPA disagrees with this comment. EPA collected sufficient data to adequately characterize the site for the purpose of developing and evaluating effective interim remedial actions to meet the objectives of inhibiting the migration of contaminants in the groundwater in the Glendale Study Area and to begin to remove contaminants from the groundwater. EPA is not proposing a final groundwater remedy for the study area or the basin at this time.

As recognized by the preamble to the National Contingency Plan and numerous EPA guidances, it is appropriate to implement an interim action before site characterization is complete. 55 Fed. Reg. 8705 (March 8, 1990); "Guidance on Implementation of the Superfund Accelerated Cleanup Model (SACM) under CERCLA and the NCP," (Jul. 7, 1992), pgs. 8-9; "Considerations in Ground Water Remediation at Superfund Sites," (Nov. 18, 1989) pgs 3-4. As explained in the preamble to the NCP and the recent SACM guidance, when balancing the desire to definitively characterize a site with the desire to implement protective measures quickly, EPA has a bias for early action. Id.

25. The recommendation for remediation of the SOU groundwater is not supported by the health risk assessment.

EPA RESPONSE: EPA disagrees with this comment. Risk assessments estimate the possibility that one additional occurrence of cancer will result from exposure to contamination. A risk of 1 in 1,000,000 (10^{-6}) means that one person in one million exposed could develop cancer as a result of the exposure. EPA considers risks greater than one in ten thousand (10^{-4}) "unacceptable." For risks between 10^{-6} and 10^{-4} action may or may not be warranted. Furthermore, when MCLs are exceeded in groundwater, remediation may be warranted even where the cancer risk is between 10^{-6} and 10^{-4}.

The results of the human health portion of the Glendale South OU risk assessment indicated that contaminant levels in the upper zone of the aquifer would pose an unacceptable ($2x10^{-3}$) risk to human health if this water were to be delivered directly to local residents, without being treated. This means that an individual exposed to the conditions used in the risk assessment would have an increased chance (1 in 500) of developing cancer during their lifetime. Both the risk assessment and the exceedance of MCLs support remediation.

26. Regional groundwater remediation may not be necessary if cleanup of certain industrial facilities' plumes is conducted.

EPA RESPONSE: EPA believes that as a result of migration of contamination from facilities, the contaminant plume needs to be addressed on a regional basis to inhibit further spread of the contamination and to begin to remove contaminant mass.

27. Elimination of the sources of the groundwater contamination must occur prior to implementation of groundwater remedial efforts.

EPA RESPONSE: EPA disagrees. The Glendale South ROD defines an interim remedy for the site with two main objectives: 1) inhibit migration of the contaminant plume and 2) begin to remove contaminant mass from this area of the aquifer. These objectives can be met prior to and while the sources of groundwater contamination are addressed. This interim action is not designed to restore the aquifer, and does not depend on source elimination to meet its objectives.

28. Pump-and-treat scenarios outlined in the FS may adversely impact the Greeff site plume extraction system.

EPA RESPONSE: EPA is aware that Greeff is conducting a groundwater pump-and-treat operation at their site under the direction of the Regional Water Quality Control Board. During the design phase of the Glendale South OU, EPA will be determining the exact location of the necessary extraction wells. EPA will involve the Regional Water Quality Control Board in the design review process. The RWQCB review will help ensure that the objectives of the pump-and-

treat and monitoring system at the Greeff site will not be inconsistent with EPA's objectives for the Glendale South OU.

29. Ultraviolet oxidation treatment systems do not appear to have been fully considered.

EPA RESPONSE: EPA disagrees with this comment. Please refer to response to comment #2.

30. Commenter's opportunity to comment fully and in detail on the Proposed Plan and underlying administrative record was impeded by an inadequate public comment period and inadequate notice of the documents subject to public comment. The public comment period was relatively brief, and there was uncertainty as to whether EPA expected formal comments on the RI, the FS, and the remainder of the administrative record.

EPA RESPONSE: EPA disagrees with this comment. EPA is only required to provide a 30-day comment period on a Proposed Plan. However, based on requests from the public and because General Notice letters were issued during the comment period, the public comment period was extended to a total of 15 weeks (107 days). Also, as stated on the Proposed Plan Fact Sheet, copies of the RI and FS reports and other study-related documents are available for review at the five information repositories in the San Fernando Valley area.

RESPONSIVENESS SUMMARY - PART II

Many of the comments received from ITT for the Glendale South Operable Unit were similar to the comments received from ITT for the Glendale North Operable Unit. Please note that the comments and responses regarding data generation address the RI for the Glendale Study Area which covers the North OU and South OU. Because of this, and because EPA has decided to combine the treatment plants for the Glendale North and Glendale South Operable Units, we have referenced and attached to this Responsiveness Summary the Responsiveness Summary for the Glendale North Operable Unit.

COMMENTS FROM ITT GENERAL CONTROLS, INC.[1]

II. EPA Evaluation of Potential Threat Presented by Groundwater in the Glendale South Plume is Inadequate

A. Data Generation

1. II. A. 1. - ITT stated that the EPA Documents do not demonstrate that EPA adequately designed the Sampling and Analysis Plan (SAP) to ensure that the required data were collected and to allow the public to comment on the SAP. EPA altered the VPB (vertical profile boring) objectives and used the VPB sites as shallow monitoring wells to study the horizontal distribution of groundwater contamination, rather than as soil borings as originally planned. ITT further stated that the RI (Remedial Investigation) does not provide information justifying the VPB siting, or reference information in the administrative record demonstrating that the change in objectives was valid or that the sampling plan was adequately redesigned to meet the needs of the revised sampling rationale. Consequently, ITT believes that the validity of the data cannot provide an adequate basis for subsequent decision-making regarding the selection of remedial alternatives.

EPA RESPONSE: EPA disagrees with this comment. See EPA Response to ITT Comment 1 of the Responsiveness Summary for the Glendale North OU (attached). Further, please note that in order to evaluate EPA decision-making with respect to the Glendale South OU, ITT must review the entire Administrative Record File for the Glendale South OU. As was the case with the Glendale North OU, the SAP and all SAP Addenda which document changes to the SAP are

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[1] The term "EPA Documents" used by ITT in its January 14, 1993 letter to EPA refers to the following three documents: 1) The Remedial Investigation for the Glendale Study Area (January 1992), 2) The Feasibility Study for the Glendale Study Area: South Operable Unit (August 1992) and 3) The Proposed Plan for the Glendale South Operable Unit (September 1992).

included in the Administrative Record for the Glendale South OU. The Glendale South OU Administrative Record was available for review throughout the public comment period, and continues to be available, at the five information repositories for the San Fernando Valley Superfund project.

2. II. A. 2. - EPA has not collected enough data points to support whether any remedial action is required or to support the designation of the Glendale South Plume area as an OU (Operable Unit). In addition, the data does not support EPA's focus of the remedial efforts on TCE and PCE.

EPA RESPONSE: EPA disagrees with this comment. EPA used 36 data points (wells) in the Glendale South OU area. These were sufficient to determine that several VOCs are above Federal and/or State MCLs in the south plume of groundwater of the Glendale Study Area. As demonstrated in the RI, the two most prevalent VOCs are TCE and PCE. Other contaminants, some detected in only the initial sampling round, were included in the risk assessment for the Glendale South OU because EPA wanted to ensure it understood the potential risks associated with exposure to untreated groundwater. Also see EPA Response to ITT Comment 1 above and EPA Response to ITT Comment 2 of the Responsiveness Summary for the Glendale North OU (attached).

3. II. A. 2. - ITT asserts that the EPA documents do not provide information indicating whether a phased approach to data collection was followed and, if so, to what extent. In addition, ITT believes that the alternatives were developed without considering resulting data gaps.

EPA RESPONSE: See EPA Response to ITT Comment 3 of the Responsiveness Summary for the Glendale North OU (attached). Again, in order to evaluate EPA decision-making with respect to the Glendale South OU, ITT must review the entire Administrative Record File for the Glendale South OU not merely the RI, FS and Proposed Plan.

4. II. A. 2. - ITT asserts that the number of sample wells are insufficient to characterize the plume boundary and constituents. It is unclear to ITT whether the boundary of the plume has been completely defined or is uncertain, and whether specific wells are believed to represent the peak of the plume. ITT believes that all wells that are within and outside of each plume should be specified, and that how the wells were selected to derive groundwater concentrations within the plume should also be specified.

EPA RESPONSE: See EPA Response to ITT Comment 5 of the Responsiveness Summary for the Glendale North OU (attached). Again, in order to evaluate EPA decision-making with respect to the Glendale South OU, ITT must review the entire Administrative Record File for the Glendale South OU.

5. II. A. 2. - ITT asserts that no information is provided that describes the shape of the distribution of data from one well from the collection of wells used to characterize the plume. Additionally, the procedure used to derive the mean and Upper Confidence Limits of the data should be explained. It is also unclear to ITT whether the time interval over which samples were collected was considered when interpreting and comparing data. The use of non-detects is misleading and requires a more explicit description to allow evaluation of the shape of the statistical distribution of the data.

EPA RESPONSE: Sufficient data were available to characterize the groundwater contamination in the Glendale Study Area and for the purposes of developing an interim remedy for the Glendale South OU. The time interval in which samples were collected was explicitly stated several times throughout the RI and FS documents and was clearly considered in EPA decision-making regarding the Glendale South OU. Regarding non-detects, please see EPA Response to ITT Comments 7 and 23 of this Responsiveness Summary.

Regulatory guidance (Risk Assessment Guidance for Superfund Sites (USEPA, 1989)) indicates that the arithmetic mean be used for the average concentration and that the RME represent the 95% confidence interval (CI) around this mean.

The following equations were used to derive the 95% CI around the arithmetic mean for selected wells in the plume.

For $n \leq 30$, we used the "t" statistic with n-1 degrees of freedom:

$x \pm t_{\alpha/2}\ Sx$, where

x = arithmetic mean

$t_{\alpha/2}$ = "t" distribution with n-1 degrees of freedom and $\alpha = 0.05$)

Sx = estimated standard error of this mean*
* standard error of the mean = standard deviation/$\sqrt{n}$

For $n > 30$, we used the "z" statistic:

$x \pm z_{\alpha/2}\ Sx$, where

x = arithmetic mean

$z_{\alpha/2} = 1.96$ and $\alpha = 0.05$

Sx = estimated standard of the mean*

*standard error of the mean = standard deviation/$\sqrt{n}$

6. II. A. 2. a. - ITT states that the data collection procedures are not adequately documented and it is difficult to determine whether the data is complete or of sufficient quality.

EPA RESPONSE: The data collection procedures are documented in the SAP and SAP Addenda which are available for review in the Administrative Record for the Glendale South OU. Also see EPA Response to ITT Comment 1.

7. II. A. 2. b. - ITT states that the number of values in RI Table 8-4 does not correlate with the number of wells with detects in RI Table 5-3. In addition, the number of samples collected per well and time intervals should be more specific and be included in the determination of concentrations within the plume.

EPA RESPONSE: EPA disagrees. Table 5-3 is entitled "Summary of Preliminary Screening of all Detected Compounds in Groundwater in the Upper Zone for the South Plume OU." As stated in the RI, Table 5-3, "lists the contaminants detected in groundwater in the upper zone of the south plume and their range of concentration, prevalence, the State or Federal MCL, and a summary of preliminary screening." Table 8-4 which is entitled "Exposure Quantification for the Upper Zone for the Glendale South Plume OU," presents the results for the exposure quantification and the maximum value for contaminants detected in the upper zone of the south plume of groundwater in the Glendale Study Area.

Table 8-4 is included in the south plume risk assessment section (Section 8) of the RI report. Data used in the south plume risk assessment included sample results from the Pollock VPBs and cluster wells (August and September 1990) and results from the A. G. Layne facility sampling of July 1990, the Philips Components facility sampling of August 1990 and the Franciscan Ceramic facility sampling of March 1989. A compound was totally excluded from the risk assessment calculations if ND was reported for every well. However, if ND was reported for a compound in only a subset of wells, EPA used half the detection limit for that compound instead of using the value of zero for ND.

RI Table 8-4 is a subset of RI Table 5-3. A number of factors influenced the final number of values (n) used for the exposure quantifications presented in Table 8-4. These factors included elimination of duplicates, exclusion of some wells due to location, and elimination of sample data derived from some wells (e.g., wells at the A. G. Layne facility) due to the high laboratory detection limits used. As stated on page 8-4 of the RI Report:

> "the number of values (n) is included on the exposure quantification tables [Tables 8-4 and 8-5] for reference to the number of values (either detected or half of the detection limit) used in the calculations. The n varies for each compound because of the different sources of data and

analytical methods used. For example, since the samples detected from the A. G. Layne wells had higher detection limits than the other wells in the upper zone, half of the detection limit was not used [in risk assessment calculations including] the exposure quantification calculations for those samples with a non detect value, thus reducing the n value. If the [A. G. Layne] values had been included [in the risk assessment calculations] at half of their detection limits, the calculations would have been biased."

8. II. A. 2. b. - Confirmation sampling of the cluster wells should have been performed for comparison as the initial groundwater samples collected from a well may be impacted by the drilling and development procedures.

EPA RESPONSE: EPA did not rely solely upon the results of the initial sampling event (VPBs in September 1989 and cluster wells in September 1990) for the same reasons raised in ITT's comment. In addition to the initial sampling event, EPA used data from a subsequent event (VPBs in September 1990) in the RI for the Glendale Study Area. Since these two events, EPA has sampled monitoring wells and existing production wells again in 1991. All monitoring wells have been sampled quarterly since January 1992. Results of EPA's groundwater sampling program are presented in reports drafted semi-annually which are included in the Administrative Record. With the exception of the initial sampling round, trends in contamination concentrations have not varied significantly. EPA will continue to conduct its quarterly monitoring program to monitor groundwater quality in the San Fernando Valley.

Also see EPA Response to ITT Comment 5 of the Glendale North OU Responsiveness Summary (attached).

9. II. A. 2. b. - The QA/QC samples were not presented in the RI or FS. Instead of reporting VOCs (volatile organic compounds) detected in the blanks as footnotes, this information should have been included in Table 2-20 in the RI to assess the analytical validity of the data. In addition, this information should be considered when modeling the data and producing the plume maps.

EPA RESPONSE: EPA disagrees with this comment. The data included in the RI was presented adequately and appropriately to support EPA decision-making with respect to the Glendale South OU. Table 2-20, "Summary of Constituents detected in Groundwater from Pollock Vertical Profile Borings and Cluster Wells within the South Plume OU" summarizes contaminants detected in the samples of south plume groundwater, not in blanks. The data on detections in blanks is presented and discussed in other tables and text included in subsequent sections of the RI report.

10. II. A. 2. b. - For three industrial sites (A.G. Layne, Philips Components, and Franciscan Ceramics) only one sampling event was

included in the data but more data should be available because these sites are conducting groundwater monitoring programs under the Los Angeles Regional Water Quality Control Board (RWQCB). In addition, the quarterly sampling results for VOCs of 112 production wells by the Los Angeles Department of Water and Power (LADWP) should have been included in the RI/FS.

EPA RESPONSE: EPA obtained the data from the most recent available sampling events for the three industrial sites at the time of the risk assessment preparation to include it in the Glendale South OU risk assessment calculations. Once EPA obtained the data, we noted that not all of the data had been validated. Therefore, once the data was collected but before it was included in the risk assessment calculations, EPA Superfund staff provided it to the EPA Quality Assurance Management Section for formal validation. Only after the data was validated was it included in the risk assessment. The validation step added substantial time to the RI schedule and therefore, only the data available and subsequently validated by EPA at the time of the risk assessment preparation was used. The validated data for these facilities is included in the Administrative Record for the Glendale South OU.

With respect to the 112 LADWP production wells, EPA does not understand ITT's comment. There are no production wells located in the south plume portion of the Glendale Study Area (see Figures 2-4 and 4-1 of the RI report). However, data from San Fernando Valley purveyor production wells is routinely included in EPA's data base for the overall San Fernando Valley Superfund project. Therefore, such data is also included in EPA's basinwide modeling.

11. II. A. 2. b. - ITT asserts that because an insufficient number of data points were used and because dense non-aqueous phase liquids (DNAPL) issues were not considered, EPA relied on the use of gross estimates to calculate the masses and distribution of key contaminants, which may misrepresent the TCE and PCE mass and distribution in the study area.

EPA RESPONSE: EPA disagrees. Sufficient data were available to justify and develop an interim remedial action for the Glendale South OU. The objectives of the Glendale South OU are limited to inhibition of further contaminant plume migration and initiation of contaminant mass removal. Addressing any potential DNAPL is not an objective of the Glendale South OU and would not be an objective for an interim remedial action such as the Glendale South OU. See EPA Responses to ITT Comments 5 and 6 of the Responsiveness Summary for the Glendale North OU (attached).

B. **Modeling**

12. II. B. 1. - Over-reliance on the groundwater numerical model will result in underestimated cost and cleanup time projection for the remedy. Specifically, exclusion of the potential mass contribution from DNAPLs could underestimate the original mass of

VOC present and significantly extend the time of mass removal and associated cleanup. EPA's use of the model as a tool to compare the relative contaminant mass removed for each alternative should not be used to determine whether one alternative is more cost-effective than another.

EPA RESPONSE: EPA disagrees with this comment. See EPA Responses to ITT Comment 11 above and to ITT Comments 8 and 9 of the Responsiveness Summary for the Glendale North OU (attached).

13. II. B. 2. - The assumptions and underlying structure for the groundwater model are not well documented and the database used is too limited to predict the distribution of chemical mass in the South Plume.

EPA RESPONSE: EPA disagrees with this comment. The Glendale South OU is an interim action and not a final remedy. The interim action has limited objectives: 1) to inhibit further lateral and vertical migration of contamination and 2) to begin to remove contaminant mass from the shallow south plume aquifer. Sufficient data were available to develop the model for the Glendale Study Area (GSA) and to develop and evaluate alternatives for the Glendale South OU interim remedy. See EPA Responses to ITT Comment 12 above and to ITT Comment 10 of the Glendale North OU Responsiveness Summary (attached).

Again, in order to evaluate EPA decision-making with respect to the Glendale South OU, ITT must review the entire Administrative Record File for the Glendale South OU, not just the "EPA documents". Several documents included in the Glendale South OU Administrative Record (AR) also discussed development and use of the GSA model, including Glendale North AR document #97. (Note: this document as many other Glendale North OU AR documents was referenced for inclusion in the Glendale South OU AR.)

14. II. B. 2. - The correlation of the electrical logs used to define the relative permeabilities in the basin is not clearly presented. Specifically, the interpretation appears to have been based only on the relative resistivity of the electric logs to infer relative permeability and did not include cross-correlation with respect to depositional environment patterns and geologic interpretation. This interpretation is necessary to show how the modeled units are hydraulically connected and that units were not "skipped" in the correlation process.

EPA RESPONSE: Relative resistivities were only one of the criteria used to define and correlate the stratigraphic units in the eastern San Fernando Valley. The recognition of units was based on depositional environments as inferred from the regional structural geology, geomorphology, and Quaternary soil maps, as well as subsurface data. The methods used to characterize the stratigraphic units in the eastern San Fernando Valley are described in more detail in the Remedial Investigation Report of

Groundwater Contamination in the San Fernando Valley (December 1992) available in Glendale South OU Administrative Record Supplement 1.

15. II. B. 2. - Figure 3-10 in the RI depicts an overly generalized interpretation of the aquifer units and the correlation of the aquifers through the Benedict Canyon Fault system infers displacement of the sediments, while the timing of deposition and fault movement is not provided. Additionally, the RI does not describe how these correlation problems were handled in the modeling effort. ITT believes that based on Figure 3-10, the aquifer system has been overly simplified and that different material with varying hydraulic conductivities may be juxtaposed.

EPA RESPONSE: See EPA Responses to ITT Comments 5, 13 and 39 of the Glendale North OU Responsiveness Summary (attached).

16. II. B. 2. - The hydraulic data used for the model is insufficient and includes aquifer test data from only one well located in the North Plume area miles from the central portion of EPA's designated South Plume boundaries. In addition, much of the hydraulic data appears to be interpolated from drillers logs which can provide inaccurate estimates.

EPA RESPONSE: See EPA Response to ITT Comments 5, 13 and 39 of the Glendale North OU Responsiveness Summary (attached).

17. II. B. 2. - Other problems inherent in the model include the approximation of groundwater flow through or at the numerous and varied hydrogeologic boundaries, such as faults, basin edges, and the Los Angeles River.

EPA RESPONSE: See EPA Response to ITT Comment 13 above and to ITT Comment 13 of the Glendale North OU Responsiveness Summary (attached).

18. II. B. 2. - The number of wells used to calibrate the model was not provided in the RI and the data is insufficient to provide an adequate prediction of the flow and chemical transport within the basin. In addition, the RI is not clear regarding which additional wells installed as part of the RI were included to assess contaminant transport.

EPA RESPONSE: See EPA Responses to ITT Comment 13 above and to ITT Comment 13 of the Responsiveness Summary for the Glendale North OU (attached). As stated in both the Glendale South FS and in the Administrative Record, the basinwide groundwater flow model was used to establish boundary conditions and other basic parameters for the GSA contaminant transport model. The basinwide flow model is documented in Chapter 6 of the Remedial Investigation of Groundwater Contamination in the San Fernando Valley (December 1992) which is included in the Glendale South OU Administrative Record.

19. II. B. 3. - The assumptions EPA used in developing the model are unlikely and are not demonstrated in the EPA documents to be valid. In addition, the EPA documents do not address how the resulting calculations would change if these assumptions were invalid. A sensitivity analysis should have been performed and presented in the FS.

EPA RESPONSE: See EPA Responses to ITT Comment 13 above and to ITT Comments 11 and 12 of the Responsiveness Summary for the Glendale North OU (attached).

20. II. B. 4. - ITT asserts that analyses of pump and treat options and future decisions regarding cleanup are built upon simplistic assumptions and are therefore inaccurate. ITT believes that the model should be used solely as a qualitative planning tool and that the FS should acknowledge the need for extensive field testing before proceeding with the design and implementation of a remedial action. Additionally, the FS should acknowledge the issue of technical impracticability.

EPA RESPONSE: The interim remedy of a straightforward groundwater pump and treat remedy for 12 years is not complex. Sufficient data were available to develop and evaluate alternatives for the Glendale South OU interim remedy. Technical impracticability was not an issue for this interim OU. Again, the remedy is an interim and not a final remedy. The objectives of the remedy are limited to 1) inhibition of further contaminant migration and 2) initiation of contaminant mass removal. This interim action will not and was not intended to restore the aquifer or meet other similar objectives of a permanent remedy. Therefore technical impracticability discussions are not relevant to this interim remedy.

C. <u>Risk Assessment</u>

21. II. C. - ITT states that the RI/FS does not conform to EPA's risk assessment guidance or exposure assessment guidelines. Specifically, the steps EPA took in conducting the risk assessment, particularly the risk characterization, were not documented or adequately explained in the RI/FS.

EPA RESPONSE: EPA disagrees with this comment. The level of detail in the risk assessment is sufficient to justify the interim action for the Glendale South OU. The preamble to the NCP and EPA policy state that a qualitative risk analysis that demonstrates the potential for risk is generally sufficient to justify interim actions such as interim actions to stabilize a site or to prevent further degradation of a site. 55 Fed. Reg. 8704; "Role of the Baseline Risk Assessment in Superfund Remedy Selection Decisions" (April 22, 1991) pg. 7. EPA's risk assessment for this interim action consists of a qualitative and quantitative risk assessment which therefore surpasses the NCP requirement for an interim action.